

Title (en)
Light-emitting device

Title (de)
Lichtemittierende Vorrichtung

Title (fr)
Dispositif émetteur de lumière

Publication
EP 1039561 A2 20000927 (EN)

Application
EP 00105920 A 20000323

Priority
JP 7786999 A 19990323

Abstract (en)
The light-emitting device has a substrate, an anode, an organic light-emitting layer, a cathode, a first and second gratings (optical sections). The first grating has a one-dimensional periodic refractive index distribution in the X direction and is capable of forming a photonic band gap. The second grating has a one-dimensional periodic refractive index distribution in the Y direction and is capable of forming a photonic band gap. A defect section is provided either for the first or second grating. This defect section is designed so that the energy level caused by the defect is within a prescribed emission spectrum. The organic light-emitting layer can emit light by electrically pumping, and an electric field is produced by the anode and cathode. The light-emitting device utilizes a two-dimensional photonic band gap and produces light with an extremely narrow spectral width at very high efficiency. <IMAGE>

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H01L 51/20; **H01S 5/10**

IPC 8 full level
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Cited by
US8013514B2; EP1540784A4; GB2390215A; GB2390215B; EP1436867A4; EP1605285A4; US7260300B2; US7421176B2; US7319709B2; WO03079071A1; WO03058307A3

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